

# STATEMENT OF QUALIFICATIONS

**Name of Lab:** Scientific Crime Detection Laboratory  
5500 E. Tudor Road  
Anchorage, AK 99507

**Date:** 02 December 2008

**Name:** Abirami Chidambaram

**Job Title:** Forensic Scientist: Technical Manager  
DNA Section

**Discipline(s):** Indicate all areas in which you do casework.

Forensic DNA analysis

**Education:** List all higher academic institutions attended.

Institution	Dates attended	Major	Degree completed
University of Pittsburgh	1983-1991	Human Genetics	Ph.D.
University of Madras (India)	1979-1980	Education-Biology and Special Education	B.Ed.
University of Madras (India)	1972-1975	Botany, Chemistry, Zoology	B.Sc.

**Other Training:** List continuing education, workshops, in-service and other formal training received.

08/26-08/28	<u>GeneMapperID-X</u> : Expert Systems Training by AB, at AK SCDL.
07/30/08	<u>Expert Witness Testimony Techniques</u> , Ron Smith and Associates, Inc. at AK SCDL
05/5-9/08	<u>ASCLD/LAB International Assessor Training Course</u> , Missoula, MT
01/8-10/08	<u>ASCLD/LAB International Preparation Course</u> , Phoenix, AZ
10/24/07	<u>Workplace Violence</u> : SOA Department of Administration course, 3.5 hours
11/15/06	<u>Emergency Preparedness</u> : What your Lab Needs to Know 1.5 Credit hours Audio Conference, AACC Inc, ACCENT Office.
08/10/06	<u>Laser Dissection Microscopy Techniques</u> : Demonstration and Workshop Instruction by LEICA personnel at Alaska Scientific Crime Detection Laboratory
08/15-19/05:	<u>Statistics and Population Genetics</u> , (Instructors: Ray Wickenheiser and Dr. G. Carmody) Training at AK SCDL Anchorage, Alaska.
08/19/04	<u>ABI3100 Seminar</u> : Instrumentation Technical and Software Training
07/22/04	<u>FBI Missing Persons Database and CODIS Overview</u> : J. E. B. Stuart, FBI
03/22 - /23/04	<u>DNA Auditor Training and Certification</u> , Class and Certification sponsored and presented by the FBI Laboratory, in Phoenix, Arizona
03/05/04	<u>Quantitative PCR Seminar</u> . In-house training by Stratagene, Scientific Crime Detection Laboratory, Anchorage, Alaska (4.0 hours)
12/11/03	<u>Quantitative Methods Using RT-PCR</u> . On-line Seminar by Stratagene, Scientific Crime Detection Laboratory, Anchorage, Alaska (1.5 hours)
12/10/03	<u>CODIS Talk: NDIS DNA Data Acceptance Standards</u> . Chris Beheim, Scientific Crime Detection Laboratory, Anchorage, Alaska (1.5 hours)

04/28/03        "Winning Courtroom Confrontations: A Seminar on How to be an Effective Witness in the Courtroom." Valerie Van Brocklin, Law Enforcement Trainer, Scientific Crime Detection Laboratory, Anchorage, Alaska (8.0 Hours)

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**Other Training (continued):** List continuing education, workshops, in-service and other formal training received.

10/11 - 10/14/02 The Thirteenth International Symposium on Human Identification, sponsored by Promega Corporation, Phoenix, Arizona (**Parentage Testing Symposium**)

09/27 - 10/02/99 The Tenth International Symposium on Human Identification, sponsored by Promega Corporation, Lake Buena Vista, Florida (**SWGDM meeting, Statistics Workshop**)

Crime Scene Response Team Training:  
05/20/99 - Crime Scene Diagramming  
04/15/99 - Video Imaging of Physical Evidence  
02/18/99 - Trace Evidence Collection

04/21/99: STR Workshop, FBI DNA Unit I and Armed Forces DNA Identification Laboratory, Alaska Peace Officers Association/Northwest Association of Forensic Scientists, 1999 Crime Conference, Anchorage, Alaska

04/19-20/99: Statistics and Population Genetics, (Instructors: B. Budowle and G. Carmody) University of Alaska-Fairbanks, Alaska Peace Officers Association/Northwest Association of Forensic Scientists, 1999 Crime Conference, Anchorage, Alaska

12/11/98: Gene Scan User's Meeting, Perkin Elmer Applied Biosystems, Scientific Crime Detection Lab, Anchorage, Alaska, December 11, 1998.

11/19/98: Fourth Annual CODIS User's Group Meeting, (FBI Laboratory) Arlington, VA

07/24-26/98: Genetics and Ethics in the 21<sup>st</sup> Century, continuing medical education course credits, University of Colorado, Given Institute, Aspen, Colorado.

**Awards and Scholarships:**

1997    Winner of the SAIC Publication Prize for Biochemistry & Molecular Biology  
1973    All-India National Language Scholarship

**Courtroom Experience:**        List the discipline(s) in which you have qualified to testify as an expert witness and indicate over what period of time and approximately how many times you have testified in each.

10/00-present:        75+ times  
STR analysis and data interpretation, case management and CODIS issues,  
Grand Jury and Jury trials, SOA rebuttal expert witness - DNA  
Admissibility hearings , Sentencing hearings

**Professional Affiliations:**        List any professional organizations of which you are or have been a member. Indicate any offices or other positions held and the date(s) of these activities.

Member, American Society of Human Genetics  
Member, The Human Genome Organization

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**Employment History:** List all scientific or technical positions held, particularly those related to forensic sciences. List current position first. Give a brief summary of principal duties and tenure in each position.

- (1) Job Title: Forensic Scientist: Technical Manager (effective 2008)  
Job Title: Criminalist IV (from December 2002 through December 2008)  
Employer: Alaska Department of Public Safety: Scientific Crime Detection Laboratory  
Principal Duties: Technical Manager of DNA Section starting June 2002 – current)  
Supervisor of DNA section starting December 16, 2002 through February 2008  
Perform DNA analysis and/or review on forensic casework and convicted offender samples. Review of analysts' case work. Provide court testimony as DNA expert witness. Perform scientific techniques and/or review in the identification of biological fluids. Data review of out-sourced samples, evaluating and validating new technology for DNA analysis, preparing procurement documents for purchasing reagents / instruments.  
Tenure: 12/02 - present
- (2) Job Title: Criminalist II  
Employer: Alaska Department of Public Safety Scientific Crime Detection Laboratory  
Principal Duties: Perform DNA analysis on forensic casework and convicted offender samples. Perform scientific techniques in the identification of body fluids, i.e., blood and semen. Provide court testimony as DNA expert witness.  
Tenure: 7/00 - 12/02
- (3) Job Title: Criminalist I  
Employer: Alaska Department of Public Safety Scientific Crime Detection Laboratory  
Principal Duties: Perform DNA analysis on forensic casework and convicted offender samples. Perform scientific techniques in the identification of body fluids, i.e., blood and semen. Provide court testimony as DNA expert witness.  
Tenure: 07/99 - 6/00
- (4) Job Title: Chemist II  
Employer: Alaska Department of Public Safety Scientific Crime Detection Laboratory  
Principal Duties: DNA analysis of forensic materials, i.e., bloodstains and saliva / buccal swabs; quantitating the DNA extracts using QuantiBlot.  
Tenure: 12/98 - 06/99
- (5) Job Title: Scientist  
Employer: SAIC Frederick, NCI-FCRDC  
Principal Duties: DNA analysis and characterization of inherited disease genes using the latest biological and molecular techniques available - manual and automated; publish results in peer reviewed journals and present at international and national scientific meetings. Volunteer, sponsor, and mentor for student instruction in laboratory methods (molecular biology, DNA extraction and typing, sequencing, mutation screening, linkage analysis and gene mapping) and evaluating student performance.  
Tenure: 1993 - 1998
- (6) Job Title: Post Doctoral Fellow  
Employer: UTMD Anderson Cancer Center

Principal Duties: Analysis of cancer genes at the DNA, RNA and protein levels, studies of families prone to multiple cancers. Instruct new lab personnel in molecular biology techniques (DNA extraction, purification, Southern blotting techniques, RNA and protein blotting).  
Tenure: 1991 - 1993

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**Employment History:** (continued)

(7) Job Title: Teacher, Laboratory coordinator and manager  
Employer: Jawahar Vidyalaya, Madras, India  
Principal Duties: Teacher-Taught Biology, human health and physiology, plant pathology, genetics, English, and Social Studies.  
Laboratory work-Biology practicum, laboratory management, and purchasing duties.  
Tenure: 1980 - 1981

**Other Qualifications:** List below any scientific publication and/or presentation you have authored or co-authored, research in which you are or have been involved, academic or other teaching positions you have held, and any other information which you consider relevant to your qualification as a forensic scientist.

**MEETINGS ATTENDED:**

**NIJ Grantees' Workshop**, National Institute of Justice, Office of Science and Technology  
07/21-23, 2008 Arlington, VA (NIJ Conference)  
07/23-25, 2007 Arlington, VA  
06/27-29, 2005, Washington, DC  
06/22-26, 2003, Washington, DC

**Missing Person Identification Conference.**  
November 7, 2005, Denver CO.

**Annual Meeting of the American Society of Human Genetics**  
October 25 - 29, 2005, Salt Lake City, UT.

**AAFS**  
02/19-23/01- Seattle, Washington

**Promega Symposium on STRs**  
10/04/04 - Promega Symposium on Human Identification, Phoenix, Arizona  
10/10/02 - Promega Symposium on Human Identification, Phoenix, Arizona  
06/12/00 - 06/13/00 - Promega Conference on PowerPlex16, Lake Geneva, Wisconsin  
09/27/99 - Promega Symposium on Human Identification, Lake Buena Vista, Florida

**SWGDM: Invited Attendee / State Representative**  
01/13-17/03 - Quantico, Virginia  
07/08-12/02 - Quantico, Virginia  
01/14-18/02 - Quantico, Virginia

**Northwest Association of Forensic Scientists**  
04/19-23/99 - Anchorage, Alaska

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## PUBLICATIONS:

**Population studies on three Native Alaska population groups using STR loci**, Forensic Science International 129 (2002) 51-57; B. Budowle, A. Chidambaram, L. Strickland, C. Beheim, G. Taft, R. Chakraborty

**Rarity of CDK4 germline mutations in familial melanoma**, 1: Melanoma Res 2002 February 12(1):51-55; Goldstein A.M., Chidambaram A., Halpern A., Holly E.A., Guerry IV D., Sagebiel R., Elder D.E., Tucker M.A.

**Genotype-phenotype relationships in U.S. melanoma-prone families with CDKN2A and CDK4 mutations**, 1: J National Cancer Institute 2000 June 21:92(12):1006-10; Goldstein A.M., Struwing J.P., Chidambaram A., Fraser M.C., Tucker M.A.

**Mapping of the human and murine orthologs of the Drosophila smoothened gene**, A. Chidambaram, B. Gerrard, M. Hanson, and M. Dean, *Genomics*, 1998.

**Assignment of the mouse and cow CXC chemokine genes**, W.S. Modi, M. Amarante, M. Hanson, J.E. Womack, and A. Chidambaram, *Cytogenetics and Cell Genetics*, 1998.

**A human homolog (OVOL1) of the Drosophila ovo gene which maps to chromosome 11q13**, A. Chidambaram, R. Allikmets, S. Chandrasekarappa, S.C. Guru, B. Gerrard, and M. Dean, *Mammalian Genome*, 8(12):950-951.

**Pulsed-Field Gel Electrophoresis and FISH mapping of Chromosome 9q22: Placement of a Novel Zinc Finger Gene within the NBCCS and ESS1 Region**, S. Levanat, A. Chidambaram, C. Wicking, P. Bray-Ward, C. Pressman, R. Toftgard, M.R. Gailani, B. Wainwright, M. Dean, and A.E. Bale, *Cytogenet, Cell Genet*, 76:208-213, 1997.

**Germline and somatic mutations in the tyrosine kinase domain of the MET proto-oncogene in papillary renal carcinomas**, L. Schmidt, F.M. Duh, F. Chen, T. Kishida, G. Glenn, P. Choyke, S.W. Scherer, Z. Zhuang, I. Lubensky, M. Dean, R. Allikmets, A. Chidambaram, UR. Bergerheim, J.T. Feltis, C. Casadevall, A. Zamarron, M. Bernues, S. Richard, C.J.M. Lips, M.M. Walther, L.C. Tsui, L. Geil, M.L. Orcutt, T. Stackhouse, J. Lipan, L. Slife, H. Brauch, J. Decker, G. Neihans, M.D. Hughson, H. Moch, S. Storkel, M.I. Lerman, W.M. Linehan, and B. Zbar, *Nature Genetics*, 16:68-73, 1997.

**A photoreceptor cell-specific ATP-binding transporter gene (ABCR) is mutated in Stargardt macular dystrophy**, R. Allikmets, N. Singh, H. Sun, N.F. Shroyer, A. Hutchinson, A. Chidambaram, B. Gerrard, L. Baird, D. Stauffer, A. Peiffer, A. Rattner, P. Smallwood, Y. Li, K.L. Anderson, R.A. Lewis, J. Nathans, M. Leppert, M. Dean and J.R. Lupski, *Nature Genetics*, 15:236-246, 1997.

**Characterization of a YAC contig containing the NBCCS locus and a novel Kruppel-type zinc finger sequence on chromosome 9q22.3.** A. Chidambaram, M. Gailani, B. Gerrard, C. Stewart, A.M. Goldstein, I. Chumakov, A.E. Bale, and M. Dean, *Genes, Chromosomes and Cancer*, 18:212-218, 1997.

**Genetics of the Nevoid Basal Cell Carcinoma Syndrome.** A. Chidambaram and M. Dean, *Advances in Cancer Research*, 70:49-61, 1996.

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**Other Qualifications:** (continued)

PUBLICATIONS: (continued)

**Mutations in the human homologue of the Drosophila patched gene in Caucasian and African-American nevoid basal cell carcinoma patients.** A. Chidambaram, A.M. Goldstein, M.R. Gailani, B. Gerrard, S.J. Bale, J.J. DiGiovanna, A.E. Bale, and M. Dean, *Cancer Research*, 56:4599-4601, 1996.

**A mammalian patched homolog is expressed in target tissues of sonic hedgehog and maps to a region associated with developmental anomalies.** H. Hahn, J. Christiansen, C. Wicking, P.G. Zaphiropoulos, A. Chidambaram, G. Gerrard, I. Vorechovski, A.E. Bale, R. Toftgard, B. Wainwright, and M. Dean, *Journal of Biological Chemistry*, 271:12125-12128, 1996.

**Mutations of the human homolog of the Drosophila patched in the nevoid basal cell carcinoma syndrome.** H. Hahn, C. Wicking, P.G. Zaphiropoulos, M.R. Gailani, S. Shanley, A. Chidambaram, I. Vorechovsky, E. Holmberg, A.B. Unden, S. Gilles, K. Negus, I. Smyth, C. Pressman, D.J. Leffell, B. Gerrard, A.M. Goldstein, M. Dean, R. Toftgard, G. Chenevix-Trench, B. Wainwright, and A.E. Bale, *Cell*, 85:841-851, 1996.

**Differences in hypervariability within the retinoblastoma gene in the great apes.** A. Chidambaram, J.C. Law, and R.E. Ferrell, *Genomics*, 14(4):1112-1113, 1992.

**Cytogenetic abnormalities in an ossifying fibroma from a patient with bilateral retinoblastoma.** S.M. Gollin, P.D. Storto, P.S. Malone, L. Barnes, J.A. Washington, A. Chidambaram, and I.P. Janecka, et.al., *Genes, Chromosomes and Cancer*, 4(2):146-152, 1992.

**A germ line mutation in exon 5 of the p53 gene in an extended cancer family.** J.C. Law, L.C. Strong, A. Chidambaram, and R.E. Ferrell, *Cancer Research*, 51:6385-6387, 1991.

**A new low frequency MspI allele at the D13S3 locus.** A. Chidambaram, L.C. Strong, and R.E. Ferrell, *Nucleic Acids Research*, 18:1317, 1990.

**A genetic linkage study of familial breast-ovarian cancer.** R.E. Ferrell, D.E. Anderson, A. Chidambaram, T.R. Marino, and M. Badzioch, *Cancer genetics and cytogenetics*, 38:241-248, 1989.

**Estimating the age-at-onset function using life-table methods.** A. Chidambaram, A. Chakravarti, R.E. Ferrell, and S. Iyengar, *Genetic Epidemiology*, 5:255-26, 1988.

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**Other Qualifications:**

(continued)

**SCIENTIFIC PRESENTATIONS:**

**DNA Overview [Collecting Evidence for DNA Analysis in Sex Assault Cases]**

Sexual Assault Response Team Training:

Anchorage, Alaska, April 9, 2008

Fairbanks (Ft Wainwright), October 3, 2007

Juneau, Alaska, April 25, 2007

Nome, Alaska, December 05, 2006.

Anchorage, Alaska, October 31, 2006.

Seward, Alaska, May 23, 2006.

Fairbanks, Alaska, January 24, 2006.

Ketchikan, Alaska, February 18, 2005

Barrow, Alaska, March 18, 2004

Kenai, Alaska, April 16, 2004.

Sand Point, Alaska, March 19, 2004.

Fairbanks, Alaska, November 7, 2003.

Anchorage, Alaska, May 17, 2002.

Scientific Crime Detection Laboratory, Anchorage, Alaska, December 18, 2001.

**STAR (Standing Together Against Rape) Conference:**

Invited Speaker. Anchorage, Alaska. September 26, 2006.

**Clinical Aspects and Considerations – DNA Analysis in Forensic Investigations,**

Clinical Laboratory Scientists of Alaska Conference, Invited speaker, Anchorage, AK

Dates : April 24, 2008, April 6, 2007 and April 24, 2004.

**"Remains of the Bay": Missing Person Cases - Identification from Human remains.**

Promega 15<sup>th</sup> International Symposium on Human Identification, Phoenix, AZ.,

October 2, 2004 - October 8, 2004.

**Missing Person Identification Conference,** Denver CO, November 7, 2005, Invited Speaker.

**Whose Genetic Profile Is It Anyway? Analytical and Ethical Challenges in Forensic Investigations.** A. Chidambaram, M. Collins, C. Duda, J. Cohen, J. Schuerman, H. Hamilton, C. Beheim. October 27, 2005. 55<sup>th</sup> Abstract Number 76 - Annual Meeting of the American Society of Human Genetics. Salt Lake City, UT.

**Optimization of template DNA volumes in PowerPlex®16 amplification reactions when DNA concentrations fall below the QuantiBlot® detection threshold.** Chidambaram, A., Cohen, J.,



Duda, C., Hamilton, H., Collins, M., and, Schuerman, J. Promega 15<sup>th</sup> International Symposium on Human Identification, Phoenix, AZ., October 2, 2004 to October 8, 2004.

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**Other Qualifications:** (continued)

SCIENTIFIC PRESENTATIONS: (continued)

**DNA (in Forensics)**, Forensic Science Educational Conference,  
June 28 - 30, 2004, (UAA) Anchorage, Alaska  
July 12 - 14, 2006, (UAA) Anchorage, Alaska  
Aug 01– 03, 2007, CSI : Montana, Rapelje, MT

**DNA Analysis in Forensic Investigations**

Defense Attorneys' Conference - Girdwood, Alaska, April 10, 2008.  
SEREMS Symposium, Wrangell, Alaska, April 11 – 13, 2008  
Bouchercon Crime Writers' Conference, Anchorage, AK : Invited speaker : September 2007.  
Office of Public Advocacy personnel and Alaska Investigators, Anchorage, Alaska, 2001.  
Domestic Violence and Rape Prevention Symposium, Anchorage, Alaska, 2001.  
Alaska District Attorney's Conference, Girdwood, Alaska, 2001 and 2000

**Genetics in Forensic Investigations**, Molecular Genetics: Impacts on Biology and Society  
University of Alaska, Anchorage, Department of Biology Research Seminar Series,  
Anchorage, Alaska - October 17, 2003.  
Anchorage, Alaska - October 13, 2008.

**Genetic Analysis of the Nevoid Basal Cell Carcinoma Syndrome** Graduate School of Public Health,  
University of Pittsburgh, Pittsburgh, Pennsylvania, 1997.

**The murine homolog (Ptc) of the Drosophila segment polarity gene patched and the human NBCCS locus maps to mouse chromosome 13**, A. Chidambaram, H. Hahn, R. Allikmets, A.E. Bale, and M. Dean, The American Society of Human Genetics, 46<sup>th</sup> Annual meeting, Abstract #1742, A300, San Francisco, California, 1996.

**The human homolog of Drosophila patched gene is mutated in the nevoid basal cell carcinoma syndrome**, A. Chidambaram, H. Hahn, C. Wicking, P.G. Zaphiropoulos, M.R. Gailani, S. Shanley, I. Vorechovsky, E. Holmberg, A.B. Unden, S. Gilles, K. Negus, I. Smyth, C. Pressman, D.J. Leffell, G. Gerrard, A.M. Goldstein, M. Dean, B. Wainwright, R. Toftgard, G. Chenevix-Trench, and A.E. Bale, Cold Spring Harbor Laboratory meeting: Cancer Genetics and Tumor Suppressor Genes, Page 258, Cold Spring Harbor, New York, 1996.

**Identification and characterization of a novel Kruppel type zinc-finger locus on human**



**chromosome 9q22-31 in the nevoid basal cell carcinoma syndrome (NBCCS) region**, A. Chidambaram, B. Gerrard, A.E. Bale, A.M. Goldstein, C. Stewart, and M. Dean, The American Society of Human Genetics, 45<sup>th</sup> Annual meeting, Abstract #325, A62, Minneapolis, Minnesota, 1995.

**STS mapping and construction of YAC contigs at the Nevoid Basal Cell Carcinoma Syndrome locus**, A. Chidambaram, M. Dean, C. Gerrard, C. Stewart, J. Weissenbach, I. Chumakov, A. Goldstein, M. Gailani, and A.E. Bale, 5<sup>th</sup> Meeting on The Molecular Basis of Cancer, The Foundation for Advanced Cancer Studies, Inc., Hood College, Frederick, Maryland, 1994.

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**Other Qualifications:** (continued)

SCIENTIFIC PRESENTATIONS: (continued)

**Genetic analysis of the nevoid basal cell carcinoma syndrome (NBCCS) locus**, M. Dean, A. Chidambaram, M. Gailani, C. Stewart, B. Gerrard, I. Chumakov, S.J. Bale, A. Goldstein, and A.E. Bale, The American Society of Human Genetics, 43<sup>rd</sup> Annual meeting, Abstract #285, New Orleans, Louisiana, 1993.

**Involvement of the RB1 locus in Li-Fraumeni Syndrome: A linkage study**, A. Chidambaram, D. Yandell, L.C. Strong, J.C. Law, and R.E. Ferrell, 8<sup>th</sup> International Congress of Human Genetics, Washington D.C., 1991.